



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/802,816

03/18/2004

Masahiko Ogino

1021.43672X00

5867

20457

7590

03/05/2009

ANTONELLI, TERRY, STOUT & KRAUS, LLP

1300 NORTH SEVENTEENTH STREET

SUITE 1800

ARLINGTON, VA 22209-3873

EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/05/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/802,816

**Applicant(s)**

OGINO ET AL.

**Examiner**

MATTHEW J. DANIELS

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-11 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-11 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 2/25/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 25 February 2009 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of the "Copy of the Notice of Rejection for corresponding Japanese Appl. No. 2003-078460" listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 25** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 depends on cancelled Claim 24.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 3-5, 7-10, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sreenivasan (US 2004/0009673) in view of Rowe (US 2201302). **As to Claim 5**, Sreenivasan teaches a nanoprint mold comprising a structure including a pattern member having a concave-convex pattern and a deep groove at approximately its center (Figs. 20A and 20B) which extends to and is open to the periphery portions for use with a press machine (Fig. 1) which would implicitly allow for removal in the claimed manner (provides a release starting point). The Sreenivasan mold may be a laminate (Fig. 34).

Sreenivasan is silent to the base member having a curved surface.

However, Rowe teaches that in using a stamp, it is known to provide a laminate structure and a curved surface (19, 24, 13).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the stamp of Rowe into that of Sreenivasan because (a) one would recognize the Rowe techniques as applicable to the similar Sreenivasan method which would provide the expected result that the stamp would be capable of conforming to curved surfaces, thereby increasing the applicability of the stamp.

**As to Claims 3 and 4**, in the Rowe process, a portion of the center is larger in thickness than the periphery (Fig. 4). However, Rowe suggests that this configuration is chosen merely because the particular embodiment is performed on a spherically concave surface. However, in view of the teachings of Rowe, one would have found it obvious to adjust the stamp configuration to also print on convex surfaces. Once it is recognized that the stamp may be adjusted to print onto concave surfaces, one would have also found it obvious to provide the opposite configuration as recited in Claim 4. **As to Claim 7**, Sreenivasan teaches a transparent

template ([0007], [0104]). **As to Claims 8-10**, Rowe teaches that it is known to provide a flexible mold secured to a support by a substance which is interpreted to be an elastomer (page 1, right col., line 40) in a circular configuration (Fig. 3). **As to Claim 25**, the deep groove of Sreenivasan is configured in the same manner as the claimed mold.

4. **Claims 6 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sreenivasan (US 2004/0009673) in view of Rowe (US 2201302), and further in view of Chou (US 2002/0132482). Sreenivasan and Rowe teach the subject matter of Claim 5 above under 35 USC 103(a). **As to Claim 6**, it is unclear if Claim 6 is limiting on the invention of Claim 5 since peripheral components such as heating and pressing mechanisms do not further limit a mold. Sreenivasan provides a pressing mechanism (Fig. 1) and suggests heating ([0206]), but it is unclear whether Sreenivasan provides a heating mechanism. However, Chou teaches that several means can be used interchangeably to soften or cure the film such as UV and heating ([0027]). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the apparatus of Chou into that of Sreenivasan since Sreenivasan teaches UV curing and suggests a heat activated curing mechanism ([0206]), and Chou teaches that UV and heat can be used additionally or interchangeably with UV ([0027]). **As to Claim 11**, Sreenivasan is silent to the elastomeric edge to facilitate release. However, Chou teaches a peripheral elastomeric gasket which separates the mold from the material to be imprinted (Fig. 3, item 32, [0027]). Since the mold would compress into the material to be imprinted (the material on item 20), which would require compression of the gasket, removal of the mold from the resist would also be assisted by the gasket. It would have been prima facie obvious to one of ordinary

skill in the art at the time of the invention to incorporate the gasket of Chou into the stamp of Sreenivasan in order to allow for imprinting by external fluid pressure.

*Response to Arguments*

5. Applicant's arguments filed 3 December 2008 have been fully considered but they are not persuasive or are moot in view of the rejections above. The arguments are on the following grounds:

a) With the use of the claimed deep groove, air is introduced to the deep groove at a center of the substrate. Choi discloses a patterned template including an entrainment channel which is not at the center. Thus, the entrainment channel of Choi and the deep groove of the present invention differ both in location and function. The entrainment channel of Choi is merely used to entrain excess fluid, not to provide a release start point.

b) Rowe and Chou do not remedy the basic deficiency with respect to Choi.

6. These arguments are not persuasive or are moot for the following reasons:

a) It is submitted that in view of the similar placement of the groove in the Sreenivasan process, the claimed release characteristics would have inherently been the same as those now claimed. To the extent that the release behavior might have constituted an unexpected result, the same result would flow naturally from the Sreenivasan channel. Additionally, Sreenivasan supports the Examiner's position asserted previously, namely that it would have been obvious to place the channels of Choi anywhere that portions of resin were to be maintained separate, including at the center (Non-Final Rejection, 7/10/08, page 3).

b) The rejections over Rowe and Chou are maintained in view of the Sreenivasan reference.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/  
Primary Examiner, Art Unit 1791  
3/1/09